MOPHIMS NEWSLETTER

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MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES

Birth Place

Our featured article discusses the rise in home births across the state and provides users with a tutorial on how to access birth data using MOPHIMS.

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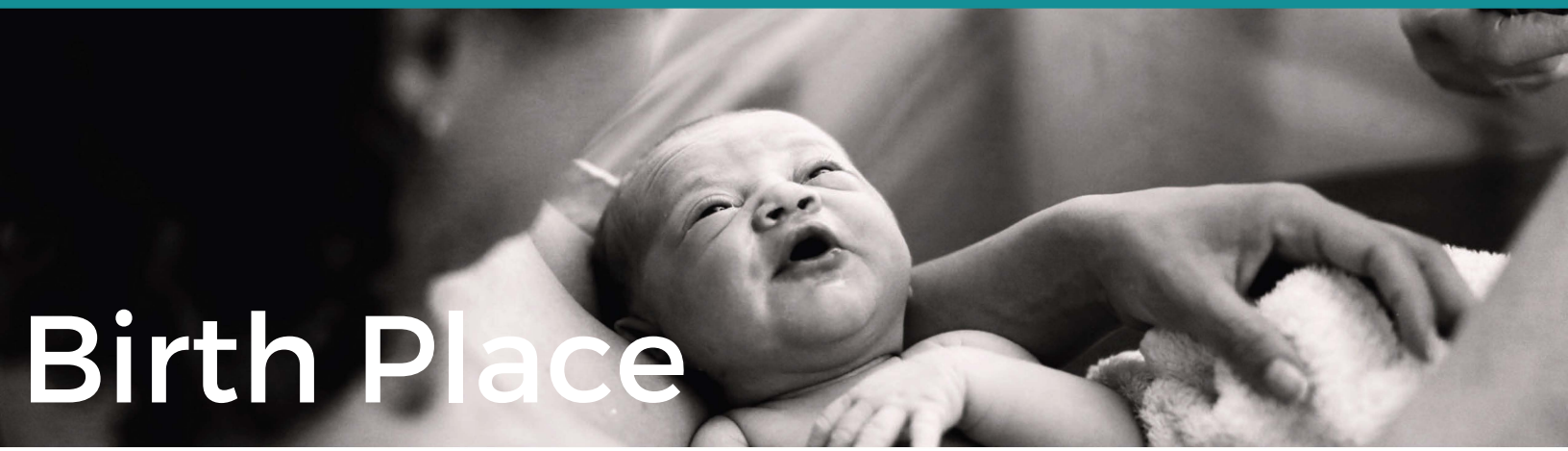
Radon Dashboard

Take a glimpse inside Missouri's Radon Dashboard to learn more about radon levels in your county.

PAGE 8



Birth Place

There are many choices to be made when it comes to pregnancy experiences and birthing preferences. One of the most important decisions is the birthing environment. With the increase of modern medicine, most births today take place in a hospital. However, over the last decade, home births and births outside of the hospital environment have seen a large increase in the United States and Missouri.

Home Births

Home births may be appealing for a variety of reasons. These reasons may include the desire to give birth without medical interventions in a familiar and comfortable environment. Religious beliefs, lack of access to transportation, distance to a hospital, or medical insurance coverage and costs may also contribute to the decision of a home birth.[1] According to a report released by the National Library of Medicine, home births increased by 77% from 2004 to 2017. During the first year of the COVID-19 pandemic, home births in the United States saw a 22% increase.[2]

Birth Centers

Freestanding birth centers are another alternative for women anticipating a low-risk pregnancy and birth. Freestanding birth centers are defined as stand-alone facilities outside of the residence and away from a hospital under the midwifery care model.[3] Birth centers are designed to allow women to have more control over the setting and care processes in labor and birth. Births in birth centers doubled over the past decade to almost 20,000 births per year, though this still only accounts for 0.5% of births in the United States.[3] Currently, Missouri does not have any licensed birth centers.

Births Not in a Hospital

In the United States, the number of out-of-hospital births saw a 75% increase from 35,578 in 2004, to 62,228 in 2017.[4] The State of Missouri has been consistent with this upward trend, with the largest increase in a one-year time frame being from 2019 to 2020. To see the birth trends across the state, follow this step-by-step tutorial using MOPHIMS.

The Birth MICA provides the ability to create custom data tables, charts, graphs and maps all centered around birth certificate data. The Birth MICA is listed under the Maternal, Infant and Child Health MICAs.

Make the following selections:

Choose Your Data

Year: Single Year
Select 2011-2020

Indicator: Deselect 'Live Births'
Select 'Birth Place: Not in a Hospital'

Build Your Results

Create a Chart

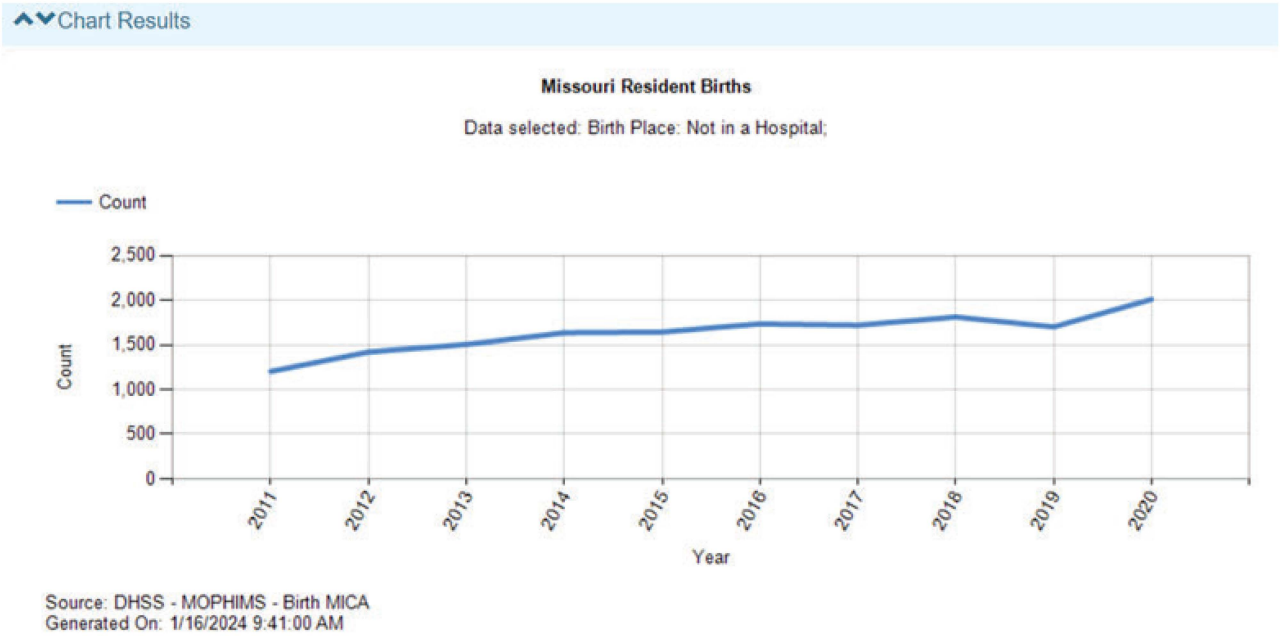
Type of Chart: Trend Line

Variable Axis: Year

Value Axis: Statistics

Statistics: Count

Figure 1



The trend line shows births not in a hospital steadily increased over the last decade. The year 2020 saw a count of 2,009 compared to the 1,202 births in 2011.

To determine if the number of births that took place outside of a hospital has significantly changed over the last decade, we will need to create a data table to compare rates using confidence intervals for births not in a hospital for 2011 and 2020.

To create this table, click on the Build a Table tab and make the following changes:

Build Your Results

Build a Table

Main Row: Year

Main Column: Indicator

Statistics: Counts and Rates

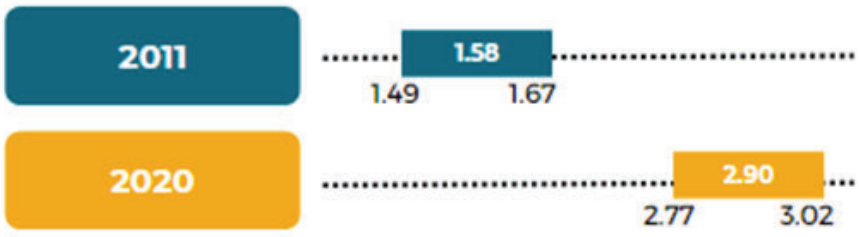
Confidence Intervals:
95% Confidence Intervals

Figure 2

Title:	**Missouri Resident Births**			
Data selected in addition to rows and columns below:	None			
Birth Place:	Not in a Hospital	Not in a Hospital	Not in a Hospital	Not in a Hospital
Statistics:	Count	Rate	Lower 95% Conf Limit	Upper 95% Conf Limit
Year				
2011	1,202	1.58	1.49	1.67
2012	1,420	1.88	1.79	1.98
2013	1,504	2.00	1.90	2.10
2014	1,635	2.18	2.07	2.28
2015	1,644	2.19	2.09	2.30
2016	1,735	2.32	2.22	2.43
2017	1,720	2.36	2.25	2.47
2018	1,811	2.47	2.36	2.58
2019	1,701	2.36	2.25	2.47
2020	2,009	2.90	2.77	3.02
Total for selection	16,381	2.22	2.18	2.25

Figure 2 shows the counts, rates and 95% confidence intervals for 2011 and 2020. We can see the 2020 rate is 2.90%, an increase from 1.58% in 2011. However, we can use confidence intervals (labeled as Lower and Upper 95% Conf Limit in the table) to determine if this increase is meaningful (i.e. statistically significant). If the confidence intervals overlap, there is no significant difference. In this case the confidence intervals do not overlap as shown in the figure below. Therefore, the rates are statistically significantly different with 2020 having a significantly higher number of births not in a hospital compared to 2011.

Confidence Intervals



Now let's see how the number of births not in a hospital vary across counties in Missouri. MOPHIMS allows us to compare differences across geographies. A map can give us a comprehensive visualization of this.

Make the following modifications to your query:

Choose Your Data

Geography: County

Build Your Results

Make a Map

Statistics: Rates

Type of Map: Quintiles

Figure 3

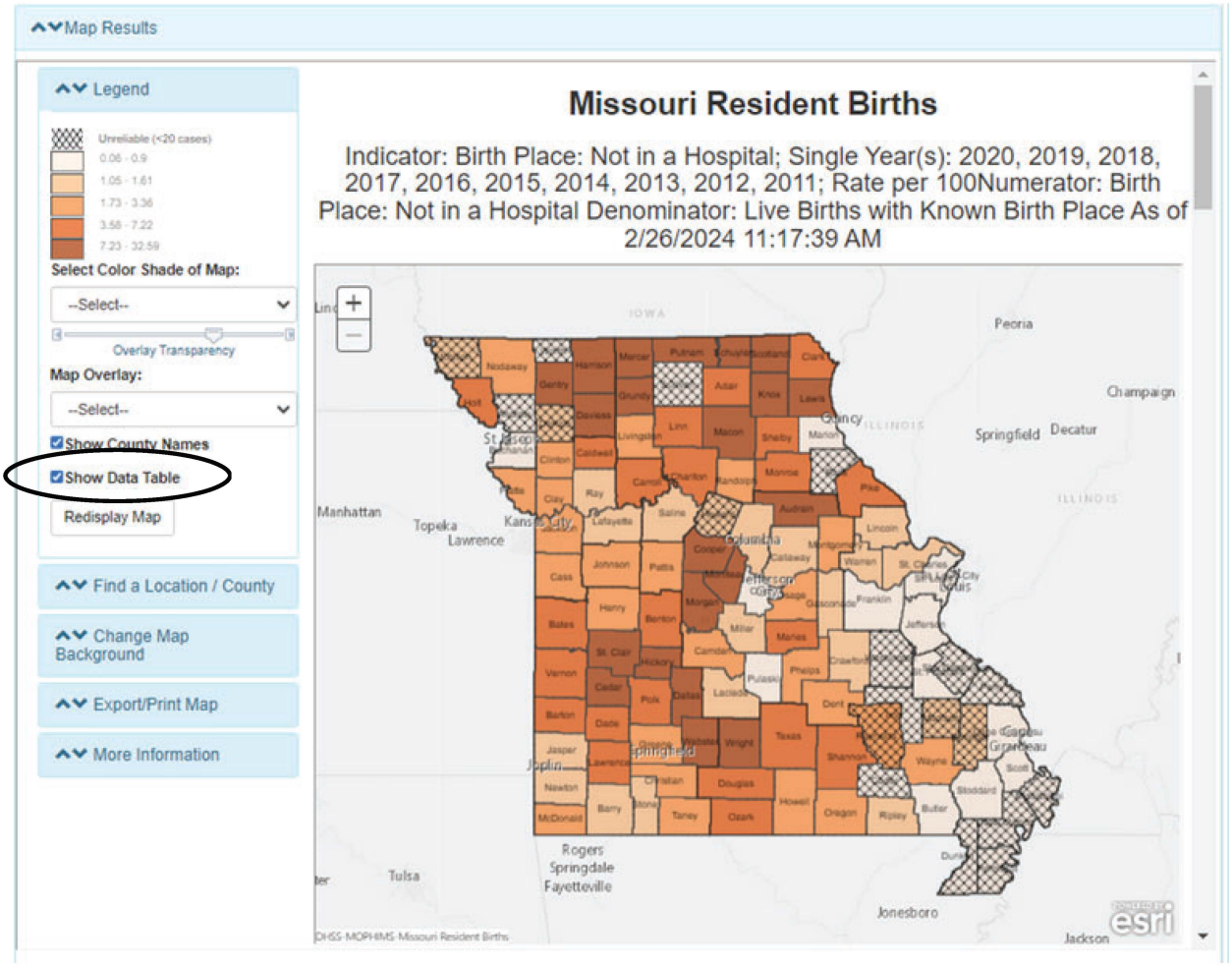


Figure 3 shows the rates of births not in a hospital by county from 2011 to 2020. Here we are combining the 10 years together rather than looking at single year differences. The map shows the highest rates of births not in a hospital are found primarily in counties located in the North and Southwest regions of the state.

By checking the Show Data Table box, *Table 1* will display. This table can be arranged to show the county rank, rate and count.

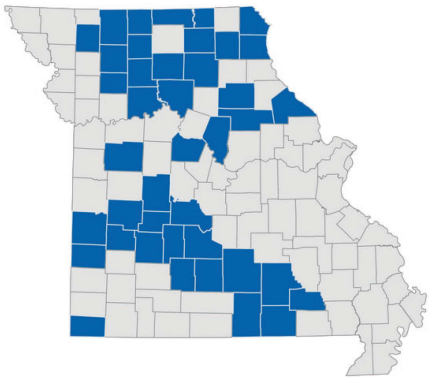
Table 1

Geography	FIPS Code	Rank	Mapped Value	Count
Scotland	199	1	32.59	262
Mercer	129	2	27.43	124
Webster	225	3	22.78	1267
Morgan	141	4	22.33	584
Schuyler	197	5	22.12	146
Daviess	061	6	19.76	232
Knox	103	7	18.06	95
Grundy	079	8	17.34	248
Moniteau	135	9	15.93	323
Putnam	171	10	14.49	83
Cedar	039	11	14.37	258
Gentry	075	12	10.92	97
Dallas	059	13	10.30	217
Harrison	081	14	10.15	107
Audrain	007	15	9.35	306
St. Clair	185	16	9.11	87

When sorting by rank, *Table 1* shows Scotland County had the highest rate from 2011 to 2020 with over 32% of births not in a hospital. Mercer, Webster, Morgan and Schuyler round out the top five highest counties with over 20% of births taking place outside of a hospital.

Many factors such as lack of transportation or cost may contribute to birth place decisions. The high rates in these regions could also be attributed in part to Amish settlements. It is important to consider these factors, as geographical regions and cultural differences can bring about different birthing and health outcomes across the state.

Counties with Amish Settlements Missouri, 2021



By Dan Holsinger - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=120995536

As always, if you need MOPHIMS support, please reach out. We will be happy to assist you!

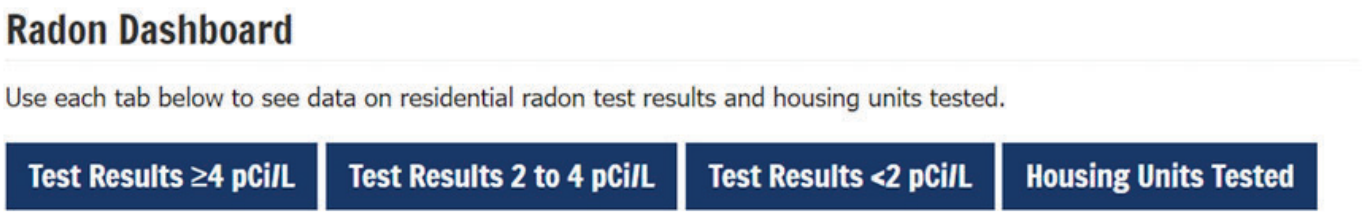
Missouri's Radon Dashboard

Learn More About Radon Levels in Your County

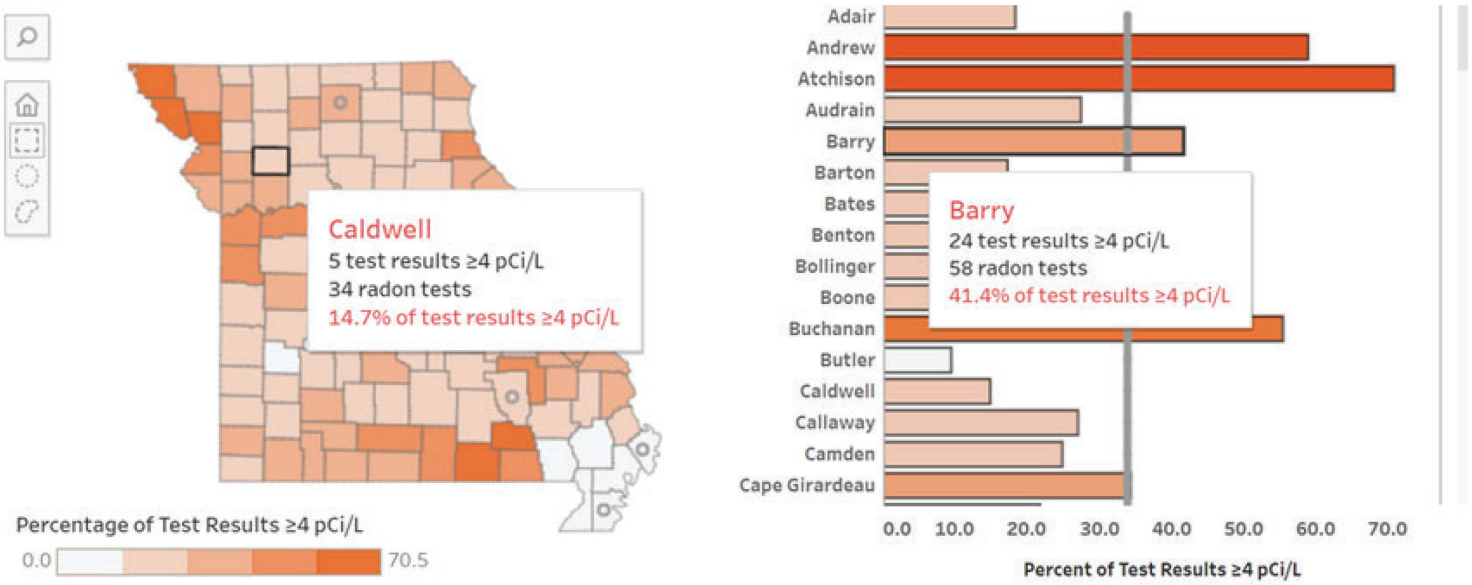
Radon is a radioactive gas that forms naturally from the decay of radioactive elements in the soil, rock and groundwater. It is colorless and odorless. Radon can seep through gaps and cracks in a foundation and accumulate inside homes and buildings. Breathing elevated concentrations of radon over time can increase the risk of developing lung cancer. The U.S. Environmental Protection Agency (EPA) estimates radon causes 21,000 deaths per year and is the second leading cause of lung cancer in the United States, after smoking.

The DHSS Environmental Public Health Tracking (EPHT) program has published a data dashboard that explores radon test results.

The dashboard can be found here:
https://ephtn.dhss.mo.gov/EPHTN_Data_Portal/radon/index.php


Radon Dashboard
Use each tab below to see data on residential radon test results and housing units tested.
Test Results ≥4 pCi/L
Test Results 2 to 4 pCi/L
Test Results <2 pCi/L
Housing Units Tested

Users can explore statewide radon test results that are categorized by recommended actions. These are shown in the navigation bar above. Approximately one of every three homes tested for radon in Missouri has been found to have a radon concentration exceeding the EPA's action level of 4 picocuries per liter (pCi/L). EPA recommends mitigation if radon concentration is between 2 and 4 p Ci/L. Below 2 pCi/L, no further action is needed.

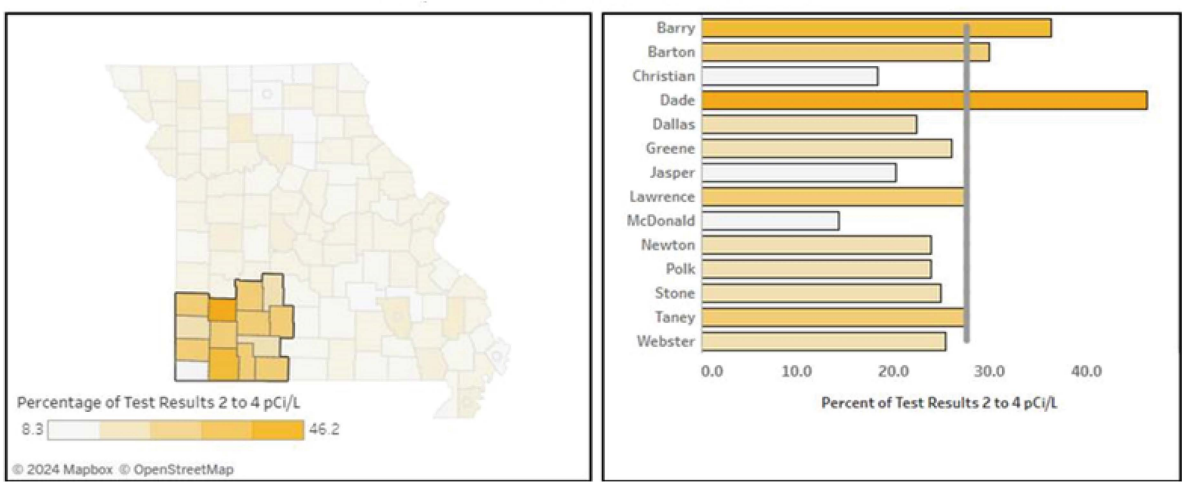


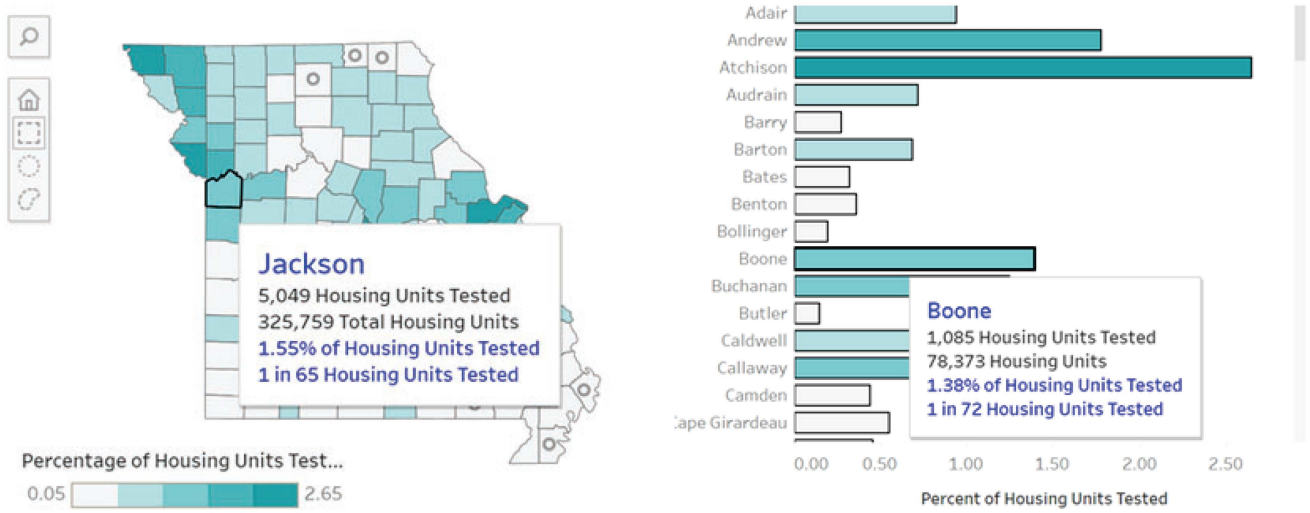
After selecting a particular set of test results, users can view a map and bar chart breaking down results by county. Details about the radon test results are shown by hovering over a county of interest in the map or chart, or by looking at the summary table below.

Test Results
Values in red indicate there are less than 10 tests.

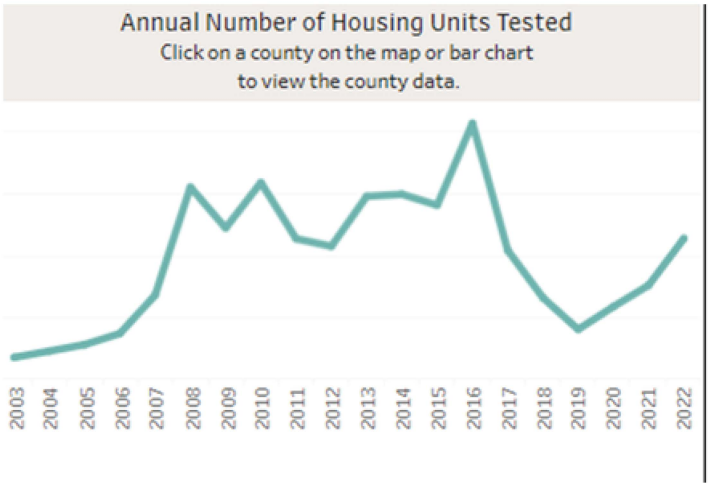
County	Number of Results ≥4 pCi/L	Number of Tests	Percent of Results ≥4 pCi/L	Median Test Result (pCi/L)	Maximum Test Result (pCi/L)
Adair	23	127	18.1	1.5	30.7
Andrew	92	157	58.6	5.4	90.6
Atchison	67	95	70.5	5.5	26.0
Audrain	24	88	27.3	1.8	56.1
Barry	24	58	41.4	3.1	24.5
Barton	8	47	17.0	1.8	10.8
Bates	8	33	24.2	1.6	5.8
Benton	16	58	27.6	1.9	26.0
Bollinger	5	18	27.8	2.4	7.8
Boone	348	1,245	28.0	2.1	249.6

Users can choose to view data from a single county by clicking on the county. Data from a group of counties can be viewed by clicking and dragging over multiple counties in the map or bar chart.





Like the radon test results, users can see data about housing units by county by hovering over or clicking the map or a bar in the chart. These data are also in table form at the bottom of the dashboard (shown below to the right). To the left, there is a line chart tracking the annual number of housing units tested in the state or selected county from 2003 to 2022.



Number of Housing Units Tested
Values in red indicate less than 10 houses have been tested.

County	Number of Housing Units Tested	Total Number of Housing Units	Percent Housing Units Tested (%)
Adair	108	11,595	0.93
Andrew	130	7,337	1.77
Atchison	78	2,947	2.65
Audrain	78	10,909	0.72
Barry	47	17,656	0.27
Barton	38	5,601	0.68
Bates	25	7,835	0.32

The EPHT Program is happy to answer any questions about this dashboard. EPHT's contact information is below.

MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES
Environmental Public Health Tracking

Phone: 573-751-6102
Email: EPHTN@health.mo.gov

Rural Health Report

The HEALTH IN RURAL MISSOURI BIENNIAL REPORT describes the health disparities rural Missourians experience compared to urban Missourians.

The report compares the rural and urban health-related and social drivers of health (SDOH) disparities, including demographic differences, population changes, difficulties in increasing healthy behaviors, health outcomes, health care access, health conditions and maternal and child health.

The report reveals Missourians living in rural counties experience many health disparities compared to Missourians living in urban counties.

https://health.mo.gov/living/families/ruralhealth/pdf/biennial2022.pdf

MOPHIMS was used to gather data within these reports

https://health.mo.gov/accreditation/pdf/state-health-assessment.pdf

State Health Assessment

The MISSOURI STATE HEALTH ASSESSMENT provides an overview of the current health status of the state, focusing on health risks and outcomes, as well as resources, programs and services available to improve the health of Missourians.

Insights from this assessment informed the **State Health Improvement Plan** (SHIP), which focuses on improving the health of residents across the state.

Overall, Missouri has some significant health challenges that contribute to its ranking near the bottom at 40th out of the 50 states for overall health according to America's Health Rankings.

Available Data

Maternal, Infant and Child Health MICAs

- Birth 2020
- Fertility and Pregnancy Rate 2020
- Pregnancy 2020
- WIC Child 2020
- WIC Infant 2020
- WIC Prenatal 2020
- WIC Postpartum 2020
- WIC Linked Prenatal-Postpartum 2020

Injury MICA

- Injury 2015

Hospital and Emergency Room Visit MICAs

- Emergency Room 2015
- Inpatient Hospitalizations 2015
- Preventable Hospitalizations 2015
- Procedures 2015

Chronic Disease MICAs

- Cancer Incidence 2019
- Chronic Disease Death 2019
- Chronic Disease Emergency Room 2015
- Chronic Disease Inpatient Hospitalization 2015

Death MICA

- Death 2020

Population MICA

- Population 2020

Available MOPHIMS Data

The graphic to the left shows the years of data available for each MICA.

If you need more current data than what is available on MOPHIMS, please reach out and we will do our best to complete your request.

Hospital-based datasets are not being updated online yet, but we do have data through 2022 available upon request. The same is true of 2022 BRFSS survey data.

Training

We will begin offering trainings once MOPHIMS is updated with more current data.

In the meantime, if you would like an overview of the MOPHIMS system, Profiles, MICAs and information on how to become a registered user, you can watch the MOPHIMS Demo Webinar on the department website under 'Community Health Assessment Intervention Planning' located here: https://health.mo.gov/data/

Additional MOPHIMS Newsletter Group Information

About the Newsletter

The MOPHIMS User Group Newsletter was created in response to user requests for communication on updates to the MOPHIMS system, descriptions of new features, additional practice exercises, announcements of training opportunities and any new information about data that might help users perform their jobs more efficiently.

Newsletters will be published on a semi-annual basis. If you have ideas for content, please send them to Andrew.Hunter@health.mo.gov or Chelsea.Fife@health.mo.gov.

We would like to feature stories describing your success at completing projects or obtaining grants using the MICA or EPHT tools as well as interviews with public health professionals about your duties and how you use MICA or EPHT to accomplish them.

Past issues are available at http://health.mo.gov/data/mica/MICA/newsletters.html.

Contributors: James Owen, Chelsea Fife, Kadarenna Matthews and Nicole Neihues

How to Sign Up or Opt Out

If you have enjoyed this newsletter, please feel free to share it with your colleagues and community partners.

We encourage everyone to sign up for the User Group by sending an email to MOPHIMSUserGroup@health.mo.gov with the subject line **MOPHIMS User Group**. Include your name, position title, organization and email address. By signing up, users will be sent newsletters directly.

Occasionally we may distribute time-sensitive information on training opportunities or other topics if the newsletter is not scheduled for publication prior to a registration deadline. The MOPHIMS User Group list also helps us track the types of organizations using the tools, which is one of our performance measures.

If you would like to unsubscribe from the MOPHIMS User Group, send an e-mail with **Unsubscribe** in the subject line to MOPHIMSUserGroup@health.mo.gov.

PLEASE NOTE: Depending on your position title, you may still receive other types of e-mails from us. For example, we are requested to send training information to all LPHA Administrators, even if they have unsubscribed from the MOPHIMS User Group.

Sources

1. Mayo Clinic. Home birth: Know the pros and cons.
Available at: https://www.mayoclinic.org/healthy-lifestyle/labor-and-delivery/in-depth/home-birth/art-20046878

2. National Vital Statistics Reports. Changes in Home Births by Race and Hispanic Origin and State of Residence of Mother: United States, 2019-2020 and 2020-2021. Available at: https://www.cdc.gov/nchs/data/nvsr/nvsr71/nvsr71-08.pdf

3. National Library of Medicine. Freestanding Birth Centers.
Available at:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8827343/#:~:text=The%20number%20of%20births%20in,et%20al.%2C%202021

4. National Library of Medicine. Trends and State Variations in Out-of-Hospital Births in the United States, 2004-2017.
Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6642827/